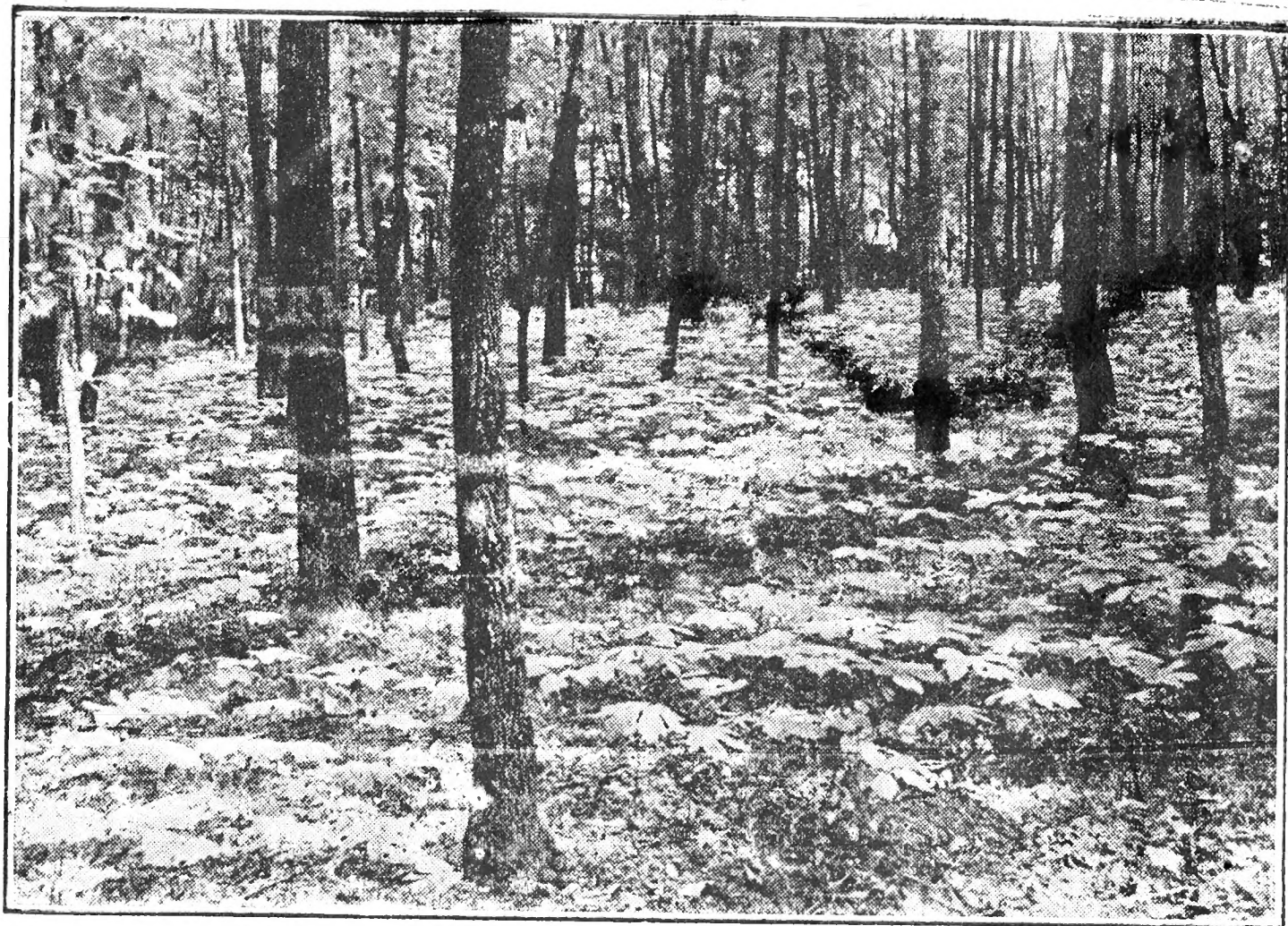


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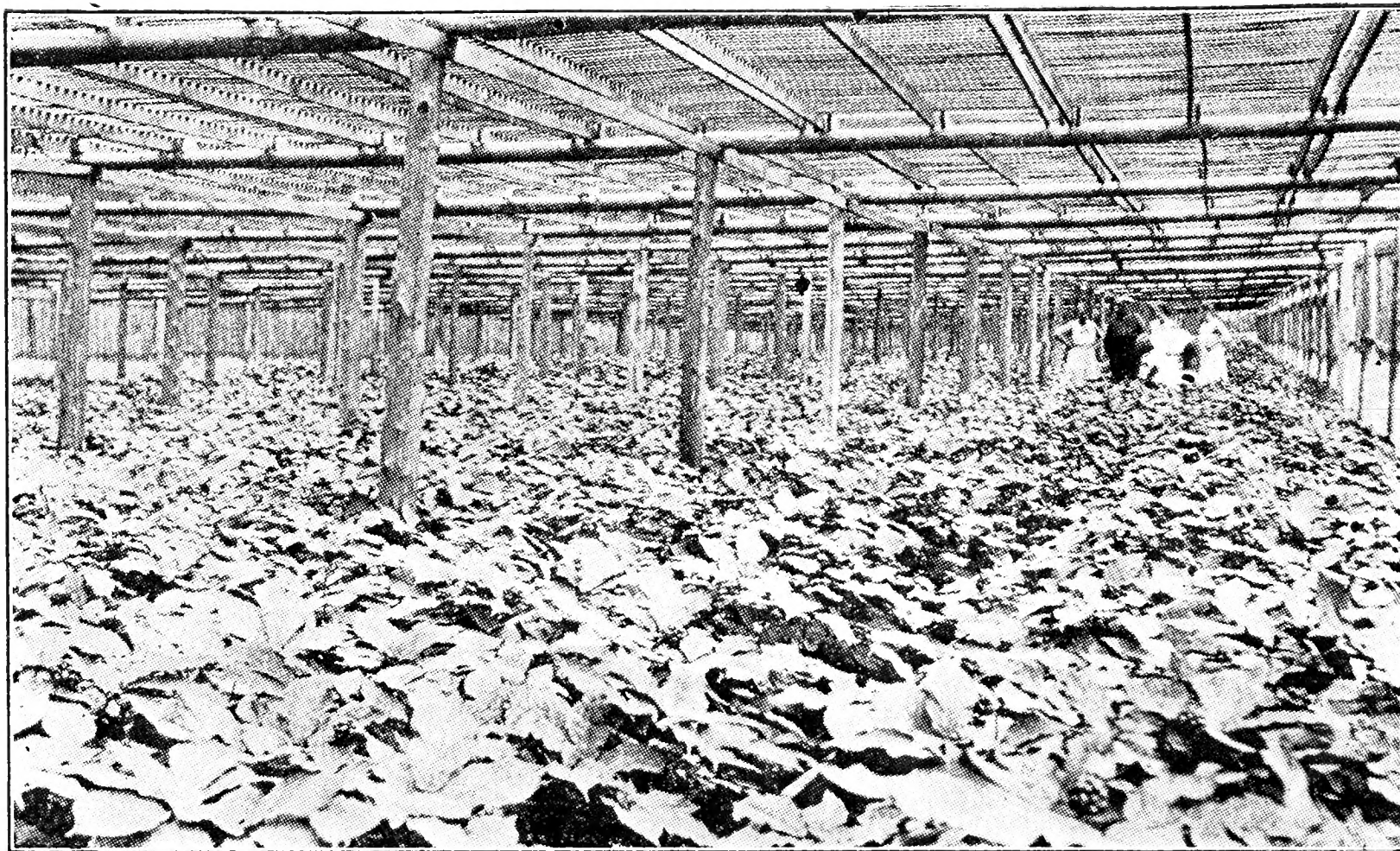
This is a picture of GINSENG growing under the natural shade of trees where it has to compete with the tree roots for moisture and plant food, but is succeeding very well and an acre when matured when five or six years old would put its owner on easy street.

Ginseng may be raised under the natural shade of trees or it may be provided with artificial shade of lath, cull lumber, lumber edgings, re-sawed sawmill slabs, etc., or under grape vines that produce a worthwhile crop aside from the ginseng.

Both plans have their advantages and disadvantages.

LAKE SARAH SPECIALTY FARM

ROCKFORD, MINN

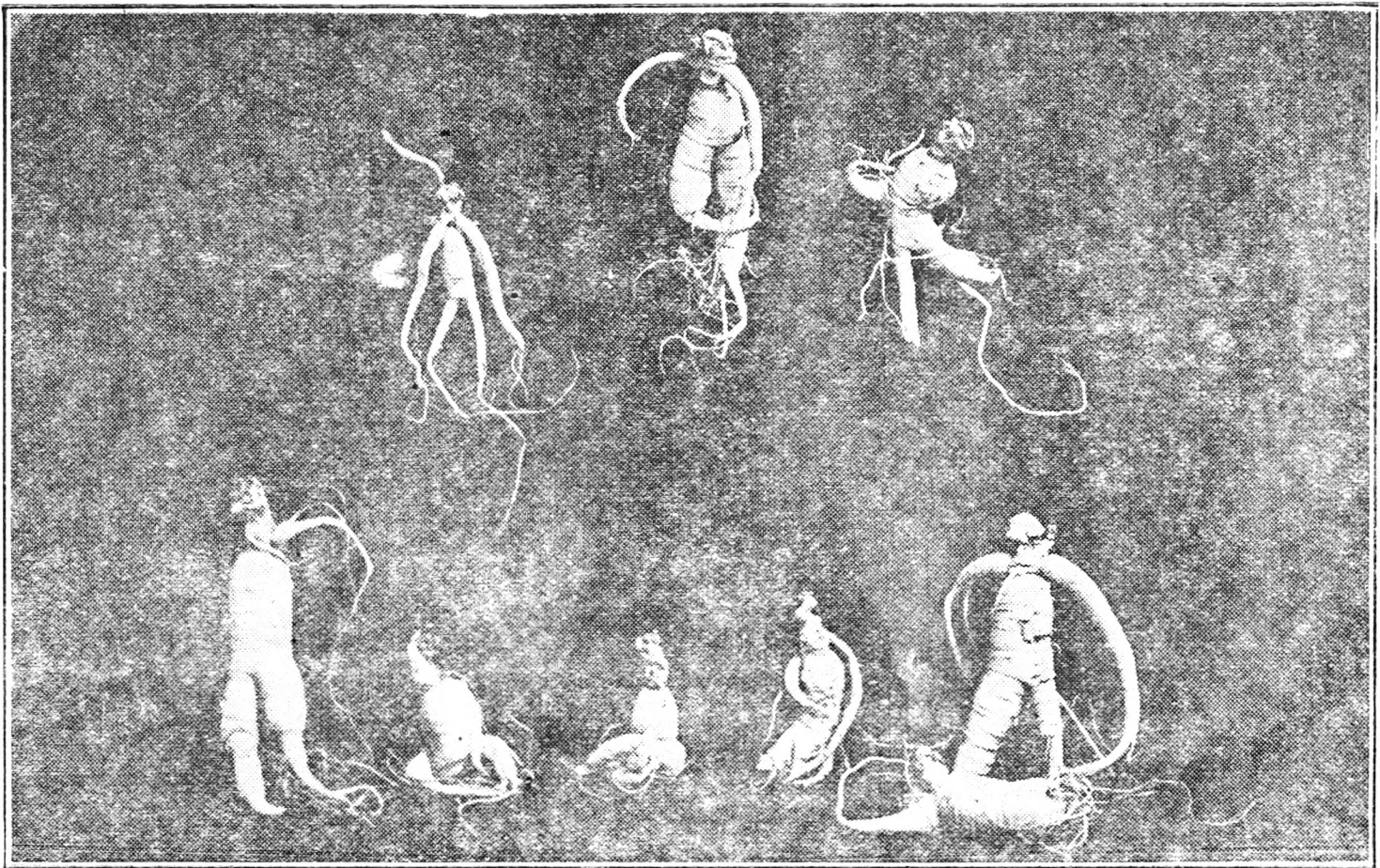


This is a picture of nearly matured ginseng under artificial shade of very substantial construction, better in fact than really necessary, however the seed crop alone on ginseng, as good thrifty stand as this would pay a better dividend on the investment than most any other crop just as a by-product and not counting the roots, the real crop which will run into thousands of dollars per acre.

Artificial ginseng shade can be made of much less expensive material than the above, for instance cull lath lumber edgings, saw mill slabs resawed in strips, small poles, willows or brush would answer the purpose equally well at much less expense.

The ideal way to raise ginseng is to plant it under artificial shade until it attains nearly half its growth for at least two years. This requires but little ground because the seeds may be planted at the rate of 20 or even 40 to the square foot because there are no tree roots to rob it of plant food and moisture, then transplant to its permanent place until maturity under trees or vines which will give it a stunted mature, wild, quality like truly wild ginseng, which usually brings a better price than quickly grown, over sized, so called cultivated grown entirely under lattice shade.

**LAKE SARAH SPECIALITY FARM
ROCKFORD, MINN.**



GINSENG

To show what an old, long standing, stable enterprise the ginseng business of the United States is, we give below statistics from the U.S. Bureau Foreign & Domestic Commerce, showing the number pounds exported and the value each year for the past eighty years, the figures for the intervening years may be had from us or from the Bureau at Washington, D. C.

The Chinese nation and people have had their "ups and downs" like other people but no matter how "hard up" they have been or in what condition political affairs were with them, these statistics show they have always managed somehow to buy our ginseng. Even during 1938 up to November 30 China bought \$924,244.00 worth of ginseng from the United States and paid for it, at the rate of \$6.10 per pound and it is safe to say the exporters did not over estimate the true export value and necessitate the Chinese

Year	Pounds exported	Value
1853	367,055	\$193,793
1868	370,966	330,457
1890	223,113	605,233
1900	160,901	833,710
1910	192,403	1,439,434
1915	103,184	919,931
1920	160,050	1,875,348
1925	133,131	1,638,221
1929	233,839	2,765,650
1935	167,000	618,077
1936	295,022	1,235,789
1930	167,000	618,000
1937	136,644	707,250
For 11 months of 1938	151,260	924,244

LAKE SARAH SPECIALITY FARM
Rockford, Minn.

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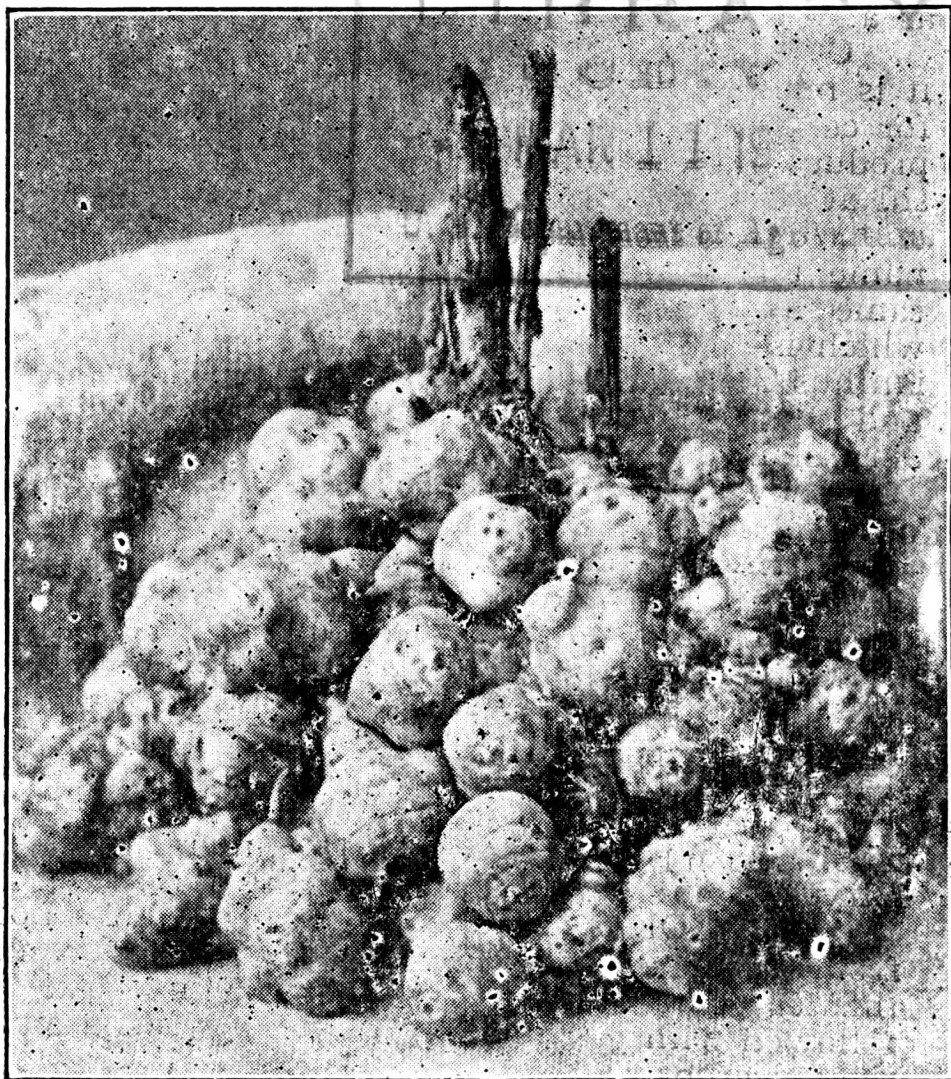
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U. S. Department of Agriculture.

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Antoine 194

"GIRASOL"
(LAZY MAN'S SPUD)



A SINGLE HILL OF "GIRASOL"
(Cut loaned by Oregon State Agricultural College)

If some one were to discover a plant **SPORT** or if some plant breeder could cross sunflowers or corn with potatoes to get a plant, the tops of which would make silage and at the same time produce valuable tubers that would outyield potatoes two or three to one, under similar soil and moisture conditions we would hail the result as a wonderful discovery.

GIRASOL will do all this and more and yet it is not NEW for it has been raised in Europe for centuries under another name. France alone produced 1,696,030 long tons in 1928 so our Consul at Paris writes us.

We call this crop GIRASOL because the name under which it sometimes passes is the same as another vegetable entirely different, which is confusing. The scientific name is Helianthus Tuberosus, it is related to both artichokes and sunflowers, it is a native of America, not Jerusalem or elsewhere.

Encyclopedia Americana says "Perhaps no other plant is of easier cultivation."

GIRASOL tubers will outyield potatoes two or three to one under similar conditions. Yields of 10 to 20 tons per acre are common.

GIRASOL tops are about a third or half the diameter of sunflower stalks but usually two or three feet taller and yields 10 to 22 tons silage per acre.

GIRASOL is not injured by freezing. The whole or a part of the crop of tubers may be harvested in the fall or the spring following.

GIRASOL is propagated by tubers only, not from roots and joints like quack grass and thistles so it can not become a serious pest if followed with pasture, hay meadow or good cultivated crops.

All stock and poultry like Girasol tubers, but perhaps the most profitable use would be as hog feed, the hogs doing their own harvesting with no expense. Trials along this line have yielded 744 pounds pork gain per acre, this might be considered NET PROFIT The silage crop would

be more than enough to cover cost of seed, land rental and cultivation expense. Adding grain to balance the ration would of course help.

GIRASOL may be eaten raw or cooked, but the inulin in girasol that replaces starch in most other vegetables need not be cooked to bring out its food value.

Millions of people have to limit their use of starchy foods which may well be substituted by girasol in which the carbohydrates are in the form of inulin instead of starch.

When used in salads, sliced raw GIRASOL is very mild flavored but when cooked soft either boiled or baked it develops a strong taste which is too strong for some people. When sliced or cut in cubes and boiled only about five minutes, then served with white sauce like new potatoes this strong wild taste is not developed, neither is found objectionable when cooked in deep fat like French fried potatoes or potato chips. We have dozens of recipes but have not room here to mention others.

The planting should be done in rows so the silage can be cut with a corn binder and the tubers dug with a potato digger.

This crop will grow on most any kind of soil but the richer the better of course, but it will do better on poor soil than most any other crop.

Rotating, while it might help does not seem to be necessary for like onions it may be planted on the same ground, year after year. Insects or plant disease do not seem to affect GIRASOL tops or tubers while growing.

Single tubers often weigh more than a pound but the average is smaller and more irregular shape than potatoes.

Small tubers, or large ones cut small, do not seem to decrease the crop as is the case with potatos.

It would appear we have mentioned enough good qualities of GIRASOL to convince most any one that it is a good crop to grow and develop a market for but we have by no means

mentioned all the possibilities.

The U. S. Bureau of Standards Washington, D. C. have demonstrated in both a laboratory and on a commercial scale the possibility of making levulose sugar from these tubers and the Iowa Agricultural College, Ames, Ia., made over a ton of this valuable sugar one year from tubers grown from seed furnished by us, levulose sugar is fifth per cent sweeter than sucrose (cane) sugar.

When farmers raise GIRASOL for silage and hogs, learn its good qualities and raise a surplus so carload lots can be secured by the sugar factories, these factories can have a spring run as well as a fall and winter season for sugar production.

On account of the high tuber yields there are great possibilities of making alcohol for mechanical purposes from GIRASOL.

Write for information to Carnegie Institute, Washington, D. C., and mention the scientific name *Helianthus Tuberosus*, for information on the use of these tubers as a regular diet for diabetics.

Except as indicated all these statements are taken from Government Bulletins. Circular 89 State Agricultural College Corvallis. Oregon or Technical Bulletin No. 33, Bureau of Standards, Washington, D. C. We would suggest anyone interested in getting fuller details secure these bulletins or write us for further particulars

Write Us for Prices on Seed Stock

Lake Sarah Specialty Farm
Rockford, Minnesota



FARM CIRCULAR



GINSENG



GINSENG

(MEANING MAN ROOT)

Ginseng is a medicinal plant, the roots of which are prized highly by the Chinese and have been used by them for centuries. American ginseng closely resembles the Chinese and Manchurian varieties, was first discovered near Montreal in 1716 and immediately a brisk trade sprang up. Ginseng originally grew wild in most of the woodlands all the way from the valley of the St. Lawrence to the mountains of Georgia and west to the Mississippi river. Cultivated ginseng grows even better in the Pacific states than in its original territory.

In Encyclopedia Americana under "advertising" is reproduced a full page of The Daily Advertiser, dated New York, March 7, 1795, in which a display advertisement of ginseng is found.

The first export statistics available are for 1858 when 366,053 pounds were sent to China valued at 52 cents per pound.

In the early pioneer days ginseng was a Godsend that kept many in clothes and other necessities if not from starvation. Ginseng hunting was pursued so vigorously it was threatened with extinction and attempts were made to bring it under cultivation, but all attempts were failures until George Stanton of Apula, N. Y., in 1885 discovered that the seeds must never be allowed to become dry and even under moist conditions it required 18 months before they would germinate. The price of roots had increased rapidly as the supply lessened and everyone who could pay the ridiculously high prices asked for the seed, tried to raise ginseng, but knew so little about its requirements mostly failed.

By 1902 the export price of ginseng was \$5.25 cents per pound dry, the cultivated being so much larger and more vigorous the exporters paid 20% more for it but the users said no and soon after the cultivated brought 20% less than the forced, pampered, over grown and usually immature, so called cultivated.

Both Encyclopedia Americana (Vol. 9) and Penny Encyclopedia (Vol. 11 printed in 1835) are accountable for the statements that ginseng is used in China for almost every ill, and that man shaped roots frequently command their weight in gold.

Practically every crop of ginseng before it reaches the consumer is sorted into a dozen or more grades, depending on age, size, outside color, inside color, wrinkles lengthwise or around, texture, specific gravity, taste, etc. and nearly every city or locality prefer or demand some particular one of these grades, all of which makes it difficult to sell except thru the regular trade channels.

Nearly every dealer in raw furs, wool and hides in the United States are dealers in ginseng and many New York dealers will send a buyer hundreds of miles to bid on two or three barrels full.

There is no record of any American or European scientific investigation to determine whether or not 400,000,000 Chinese have or have not been all wrong in their faith in ginseng for several centuries but the fact remains that Chinese scientists, Doctors, etc., that have been educated in America and Europe, have never said or done anything that has injured the ginseng business.

What must the Chinese think of the millions occidentals who repeatedly try to rub liniment thru the cuticle in the belief it can really be done and somehow neutralize or relieve their rheumatism or neuritis, etc., something both impossible and unscientific and yet so often tried.

It is no more difficult to raise a garden size patch of ginseng than it is to raise a vegetable garden, not nearly so much work because ginseng must be raised under the shade of trees, vines or artificial shade made of cull lath, lumber edgings, brush or reeds or even hay thatch as is practiced in Manchuria, it grows best under some sort of vegetable mulch like decayed sawdust, leaves, chaff, straw, or perhaps best of all is marsh hay because free of weed seeds. With any crop grown under--

shade and mulch there need be little fear of weeds as is the case with vegetable gardens, this is particularly true if the ground has been previously summer fallowed.

Excepting the shade requirement ginseng will grow and thrive under the same moisture and soil condition required for garden vegetables.

The IDEAL conditions would be a rich, black, sandy loam, with considerable humus, no barnyard or commercial fertilizer except perhaps some phosphoric acid if other crops indicate a deficiency in that element. Ideal moisture conditions would be such as found under thick leaf mulch beside an old log, moist but not wet, ginseng can not stand wet feet, the ground must be well drained and yet ginseng is not particularly drouth resisting.

Ginseng will attain at least twice the size under artificial shade, compared to that grown under natural shade where it has to compete with trees or vines for plant food and moisture, but roots grown under natural shade usually bring considerable more per pound.

If artificial shade is used the lath or lumber edgings must run north and south so there will be an ever changing sunshine and shade, about one fourth sunshine, three fourths shade, the farther south the more shade. Good air drainage is desirable, tight fences objectionable.

The more sunshine given the plants without using enough to kill them the larger the root growth.

If one can provide both artificial and natural shade a good plan would be to grow under artificial shade two years or until the roots are about a half inch diameter, then transplant in the timber, where the ginseng would have to compete with the tree and vine roots and given a stunted, starved, matured appearance making it resemble the wild.

If a large planting is to be done it is usually better to do the work in the fall shortly before freezing weather, when the weather is usually favorable for many days or even weeks but if only a few pounds are to be planted it is just as well to leave the seeds in the care of some one experienced until the frost has left the ground in the spring, the seed will then germinate at once and soon show a patch of ground one may well expect to be proud of in the future.

Ginseng seed should be planted about a half inch deep then an additional half inch decayed hardwood sawdust or not having sawdust it is all right to use a full inch dirt covering patted down with the back of a spade to bring seed and soil in contact, then add enough mulch to help retain moisture but not enough to prevent seed forcing the top of the plant thru, rotted leaves would be fine, chaff, straw, shredded corn stalks or most any vegetable mulch, but not fresh pine sawdust containing much pitch.

When planting, it is a good plan to stretch a string along one side of the proposed planting, prepare the surface four feet square, place a light frame made of lath, four feet square beside the line string, prepare a paper box the right size to hold the required number of seed you propose planting on these sixteen square feet, say 12 or 20 to the square foot, scatter this required number of seed within the frame, fork enough soil from where the frame is to be placed next to cover the seed, drag the frame to next location and proceed with the measure filled as before.

If a seed bed is not used in order to economize on the ground and weeding, some growers plant in rows 16 or 18 inches apart with plants 3 or 4 inches in the row in permanent location where the crop is to mature, then cultivated with a wheel hoe the first summer to reserve moisture and prevent weeds instead of using mulch, except if this is done in the fall a mulch is used, and raked off in the spring before cultivating but it is usually best to do most of the cultivating the year before planting except where but a few pounds of seeds are planted. In either case paths must be left every four or five feet to walk in, and carry off excess of water in case there should be too much rain.

Growing a half acre ginseng should be a particularly attractive proposition for 10 or 12 year old boy or girl who aspires going to college in six years. Let him or her get a pencil and paper and do some figuring.

There are 172 square feet in a square rod and 160 square rods in an acre.

Question. How large a piece of ground would it be necessary to spade up or otherwise prepare to accomodate 50000 seed the first two years, count-

ing 12 seed to the foot, how large a piece allowing 20 seeds to the foot? How much ground would be necessary at the end of two years if transplanted say 6x6 or 6x8 or if ground is plentiful 8x8 inches allowing for paths?

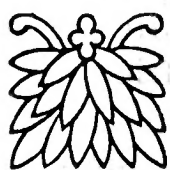
If these roots at the end of six years sold for only 10 cents each how near would you be having enough to pay your expenses thru college, after deducting the cost of seed at \$2.00 per thousand.

How many hours fishing would you have to lose the first and second summer to weed a patch the size determined on.

We had one choice patch ginseng that averaged 65 cents per root, one single $\frac{3}{4}$ pound specimen worth \$1.80 at the prevailing price at that time.

They were seven or eight years old instead of five or six which is the usual time required. We also had another patch planted under trees where chickens had prevented weed growth for years, after spading and planting the ground not an hours work was ever done to cultivate and not a handful weeds to the rod ever appeared. This made 50 pounds green roots at six years, roots dry down three to one, they were worth about \$9.00 per pound dry then but were so crowded and dwarfed we transplanted to get a couple years more growth and size, it seldom pays to market too early.

We know of no other crop that is so profitable or one that has continued to increase in price so long or a remedy that remained popular so long.



LAKE SARAH SPECIALTY FARM

Rockford, Minnesota

